

# Overview of Methodology and Research

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# Framework: 2 Approaches

1. Questions from CAP process
2. Systematic consideration of end-of-life issues
  - a. Matrix: Products and Disposal Facilities
  - b. Mass-Balance Equation

# Matrix: Products

Product	General Info.	Reuse	Recycle	Landfill	Incineration
<b>e.g., Upholstered furniture</b>					
PBDE type					
PBDE use in product (vol. per unit and total over time)					
Average life of product					
PBDE volume in product at end-of-life					
PBDE fate					
Annual product volume- current and projected					
Annual volume of PBDEs in products at end-of-life- current and projected					
Potentially exposed human populations of concern					
Potential environmental pathways of concern					
Policy questions					
Other questions					

# Matrix: Additional Products being Researched

- Rebond carpet padding
- Mattresses
- TVs
- Computers
- Other consumer electronics
- Vehicles

# Matrix: Disposal Facilities

Disposal Site/Matrix	PBDEs identified	Quantity	Possible Options to Contain PBDEs	Potentially Exposed Human Populations of Concern	Potential Environmental Pathways of Concern	Policy Questions	Additional Questions/ Data Needed
Solid Waste Landfills							
Gas							
Leachate							
C & D Landfills							
Gas							
Leachate							
Solid Waste Incinerators							
Ash							
Emissions							
Sewage Sludge Incinerators							
Ash							
Emissions							
Sewage							
Influent							
Biosolids							
Treated sewage effluent							

# Mass-Balance Equation

- Total PBDEs produced, scaled for WA =
- PBDEs in products being sold currently +
- PBDEs in products in offices and homes +
- PBDEs in dust +
- PBDEs in landfills +
- PBDEs in land-applied biosolids +
- PBDEs in the environment (sediment, soil, water, fish, other animals) +
- PBDEs in people +
- PBDEs from outside WA via environmental transport –
- PBDEs incinerated (biosolids and solid waste) –
- PBDEs “exported” via environmental transport

# Mass-Balance Equation

- Help put end-of-life issues in context
- Identify wastestreams to address
- Much data simply doesn't exist

# Constraints to and opportunities for developing effective public policy

- Lack of data for nearly every category identified
- Lack of alternatives
- Cost of alternatives
- Very difficult value judgements



# Narrow scope

- Address questions
  - Where data available
  - Where policy options available

# Where input is needed from Committee

- Feedback on methodology
- Data
- Input on value judgements
- Creative solutions